How to Use ArcExplorer2™

Sponsored by

The Connecticut Department of Environmental Protection

Connecticut Department of Environmental Protection
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ArcExplorer™ is a free data viewer created and distributed by Environmental Systems Research Institute (ESRI), Redlands, CA. Visit http://www.esri.com/ for more information.

TABLE OF CONTENTS

Welcome!

What will I learn from this tutorial?

This tutorial will teach you the basics of using ArcExplorer™ so that you may quickly and easily view a variety of data on your computer in a map format.

A more complete user's guide is available from ESRI in pdf format and is also included on this CD.

Using the Ready-To-View Projects

If you are using the ready-to-view projects on the CD, you might want to begin this tutorial at Step 3, Panning and Zooming, and continue to the end of the tutorial. These chapters will teach you to navigate geographically around the state, find features within themes, and query data.

Creating Your Own Project

If you would like to create your own project and learn to add data to your map, begin at Step 1 and follow the entire tutorial. You can then create custom projects with data most suited to your purposes.

A General Overview of the Components of GIS*

There are two primary components of using any GIS application. The first is the **software** necessary to view the data and the second is the **data** itself.

SOFTWARE

The software that is included on the CD is ArcExplorer 2™. ArcExplorer is a free software program developed by ESRI, Inc. (Environmental Systems Research Institute) and distributed through its website. It was developed to **view** geospatial data. It was not meant to be used for **creating** geospatial data. Programs such are ArcGIS, ArcView, ArcInfo, etc. are the more complex programs that perform a multitude of tasks with geospatial data and are not freeware. If you are interested in purchasing or learning about these more complex programs, visit http://www.esri.com.

DATA

In order to view maps using ArcExplorer, you will be accessing two specific types of data files: **Shapefiles** and **MrSID** files.

Shapefiles. Most of the data you will be viewing are in files called "shapefiles". A shapefile is an ESRI-specific file format that allows you to view data as maps within ArcExplorer. All of the data on the CD are in shapefile format. When you add data to your map, the files will be shown with an ".shp" extension.

MrSid files. These files allow you to view imagery such as the topographic maps and the aerial photographs. MrSID files are a proprietary file format created by LizardTech. An acronym for "Multi-resolution Seamless Image Database", these files allow for compression of large images and result in quick image viewing. When you add imagery to your map, the MrSID files will be shown with an ".sid" extension. Please be aware that there are no MrSid files on the CD, since these files are associated with topographic maps and orthophoto imagery. To view either topos or photos, you must download individual quadrangles from the DEP GIS website.

*Geographic Information Systems (see Appendix II)

Components of GIS (continued)

The data sets used in this tutorial include some of the data on the CD. The following themes are included on the CD:

Shapefiles		
Aquifer Protection Areas	Drainage Basins	Lake Bathymetry
Coastal Boundaries	Dams	Natural Diversity Database Areas (Endangered Species)
Streets	Hydrography	Airports and Railroads
Geographic Names	Town, County & State Boundaries	DEP, Municipal, and Federal Open Space Lands
State Boat Launch Sites	Leachate and Wastewater Discharge Sites	Bedrock, Quaternary and Surficial Geology
Sewer Service Areas	Water Quality Classifications	FEMA Flood Zones (except Windham County)
Wetland Soils (except portions of Northwest Connecticut)	Topo and Orthophoto Map Indexes	

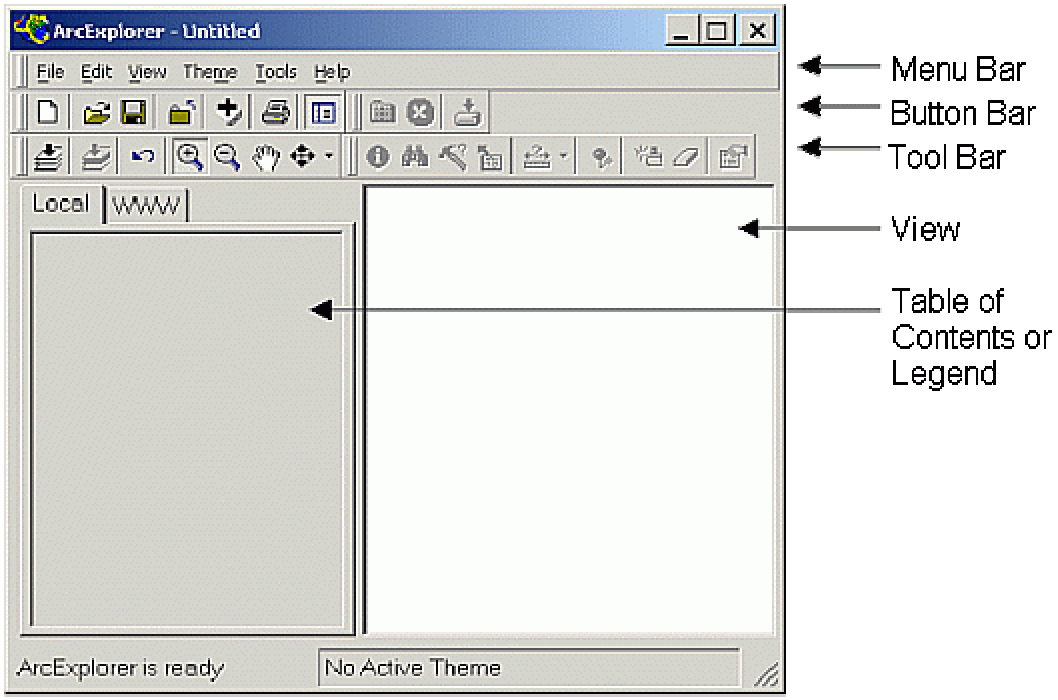
To Start ArcExplorer

After installation, select Start -> Programs -> ESRI -> ArcExplorer to open ArcExplorer. The Start Button is located in the lower left-hand corner of your screen.

OR

Click on the ArcExplorer icon on your desktop.

You will see your first ArcExplorer screen, which looks like the following:



The **Menu Bar** is a standard Windows feature and reveals drop-down menu choices when moused over.

The **Button Bar** contains buttons, that, when clicked, perform an action. For example, when you click on the picture of the disk, your ArcExplorer project will be saved. There is a list and a description of all of ArcExplorer's buttons in the Appendix.

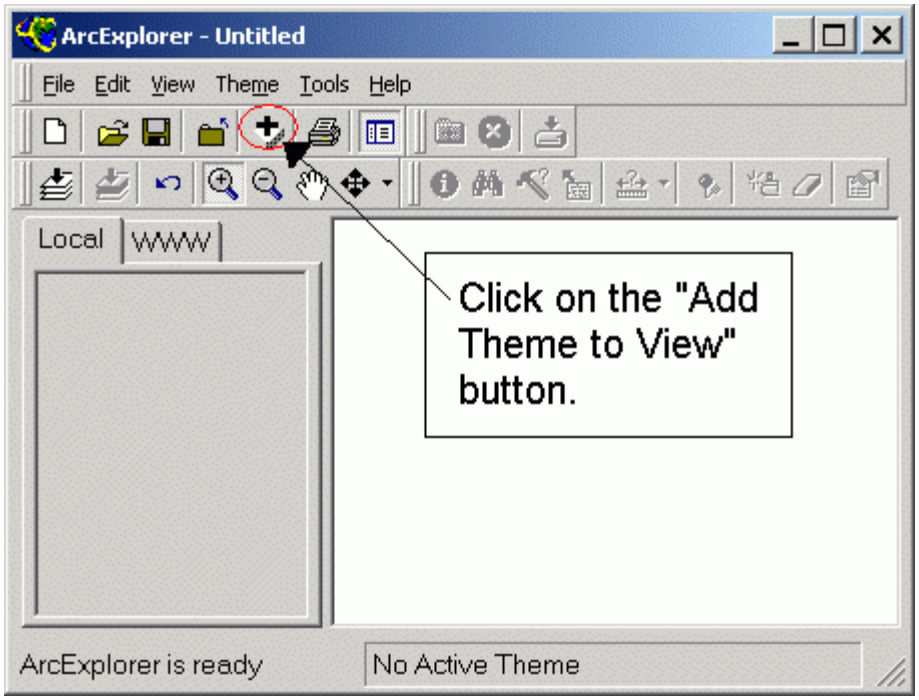
The **Tool Bar** is different than the Button Bar in that when you click on a tool, it becomes "active". It does not immediately perform an action. After a tool is activated, you can then use it on your map.

The **View** is where your map is displayed.

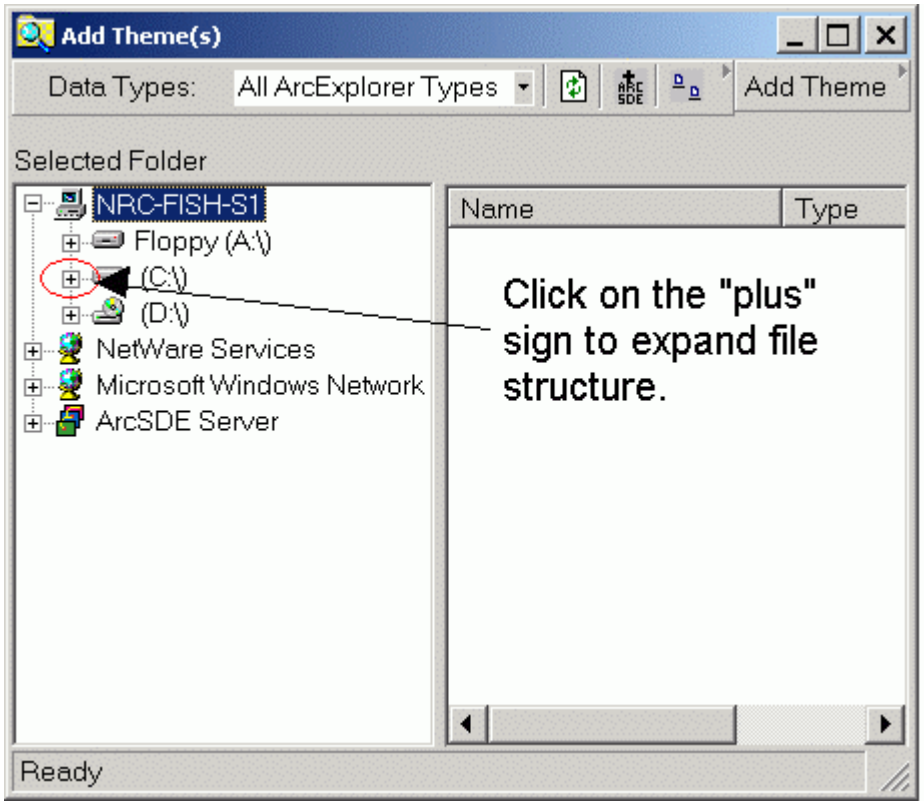
The **Table of Contents**, also known as the **Legend**, shows you which data layers you have loaded into your project and whether or not they are "active", or "displayed".

Step 1. Adding Data

The first step is to add data to your view. In ArcExplorer, the data are known as **Themes**. To add a theme to your view, click on the **Add Theme to View** button, as shown below.



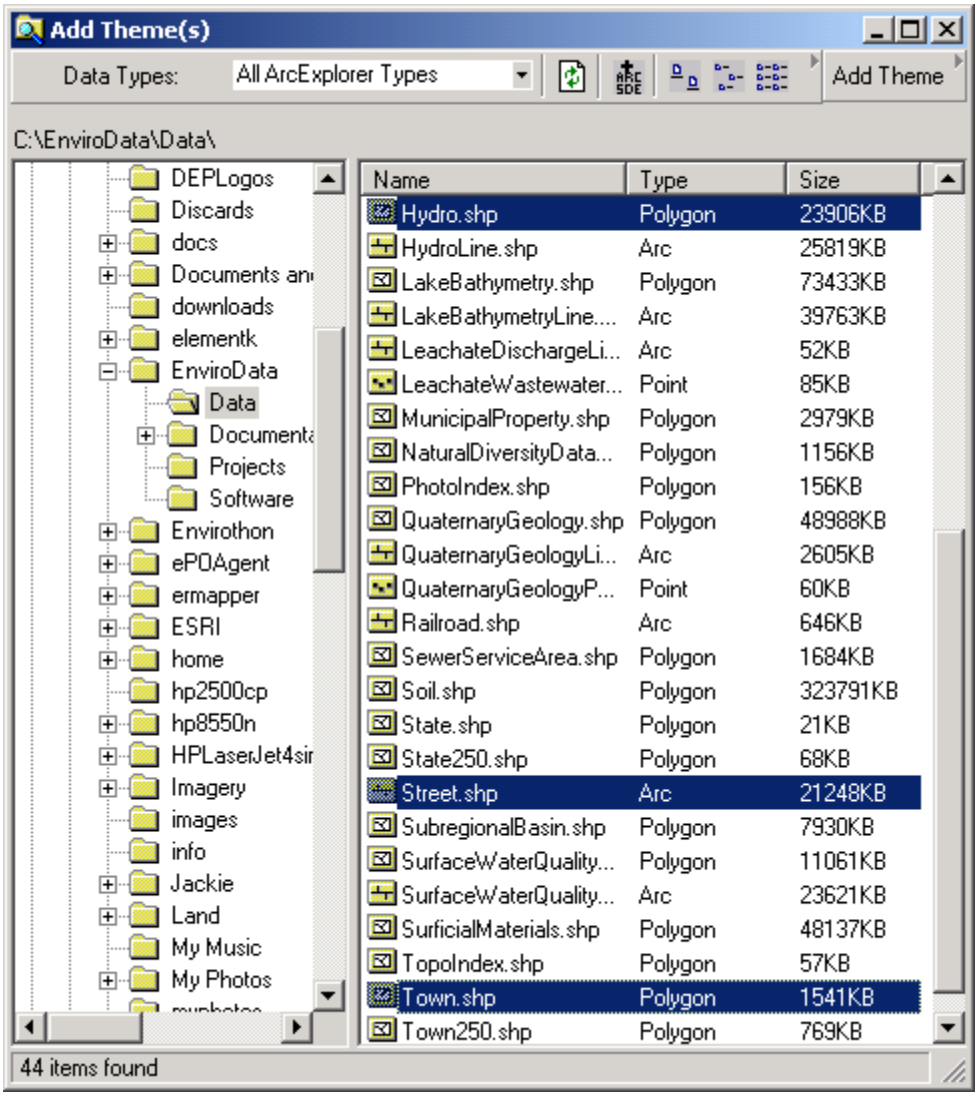
The resulting **Add Theme(s)** dialog box opens, which lists directories and files in ArcExplorer, as shown below. Now click on the plus sign to expand the file structure on your C:\ drive (or whichever drive you are using for storage of your data).



Step 1. Adding Data (continued)

Now expand the **EnviroData** folder, then the **Data** folder. The files included in the **Data** folder are listed on the right, beginning with Airport.shp.

ArcExplorer recognizes various GIS data file formats. The GIS data files on the CDs 1-4 are in shapefile format. These files end with an **.shp** filename extension. To view shapefiles in ArcExplorer, you must use ArcExplorer's **Add Theme** button. Note, you cannot simply click on shapefile names in Windows Explorer and expect ArcExlorer to start up and load them.



Add the following themes: hydro.shp, street.shp, and town.shp. To add the first theme, click on it to highlight it. Highlight the remaining themes by holding down the control key while clicking on the filenames. If you highlight the wrong file, just click it again while holding down the control key to unselect it.

When finished highlighting these themes, click the “Add Theme” button in the upper right hand corner. Then close this dialog box.

Step 1. Adding Data (continued)

Adding Topographic and Orthophoto Data

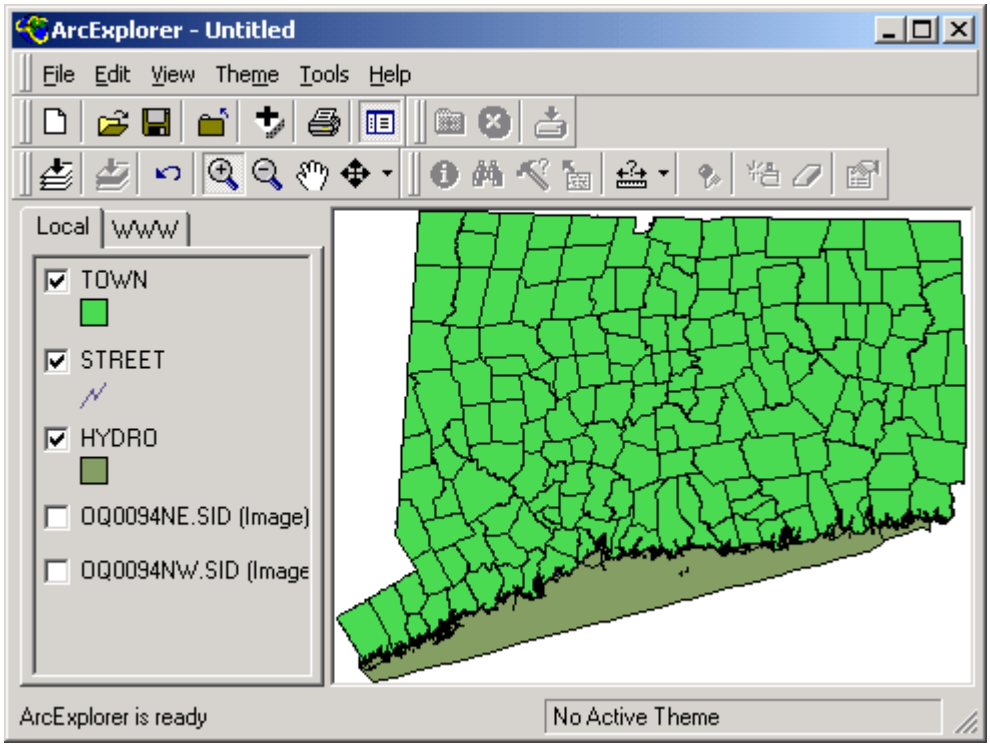
The topographic maps and orthophotos are available online as downloadable files from the DEP GIS website. These files are in MrSid format, as discussed previously, and have a file extension of .sid.

The topographic maps are based on "quadrangles" that were mapped by the United States Geological Survey. There are 116 separate quadrangle maps throughout Connecticut and they each represent 7.5 minutes on the earth's surface. The quarter quadrangles are merely "quarters" of the quadrangle areas and represent 3.75 minutes of area. These quarter quadrangles contain the orthophotography. Thus, there are 4 quarters X 116 quadrangles for a total of 464 orthophoto MrSid files.

In order to view any of the imagery, you must download the appropriate quadrangle or quarter quadrangle. Once you have downloaded the correct .sid files, you can then add them to ArcExplorer just as you added the shapefiles. See Adding Data.

Step 2. Viewing Data

Now that you have added themes, they are shown in the Table of Contents. Note the checkbox to the left of each theme name. If you check the box on, the theme will be **visible**. If you uncheck the box, the theme **will not be visible**.



Drawing Order. Each of the themes in the Table of Contents draws beginning with the bottom theme and working upward. Therefore, your bottom-most theme will be drawn first, then the one above that, and on up. This is important to know since a solid colored polygon theme should be placed on the bottom, allowing a line theme or a point theme to draw on top of that.

The drawing order of the themes can be changed so that one particular theme draws before another. To do this, click on the theme name to make it active. Then hold the left mouse button down and drag the theme up or down to place it in the order you prefer. You will see the order of themes change and you will see your view change according to the new drawing order.

Some of your themes are “polygon” themes, which means that they are initially displayed with a solid color. The colored squares beneath each theme comprise the legend. You can change the color of the legend. You can also change the shading to be either **transparent or solid fill**.

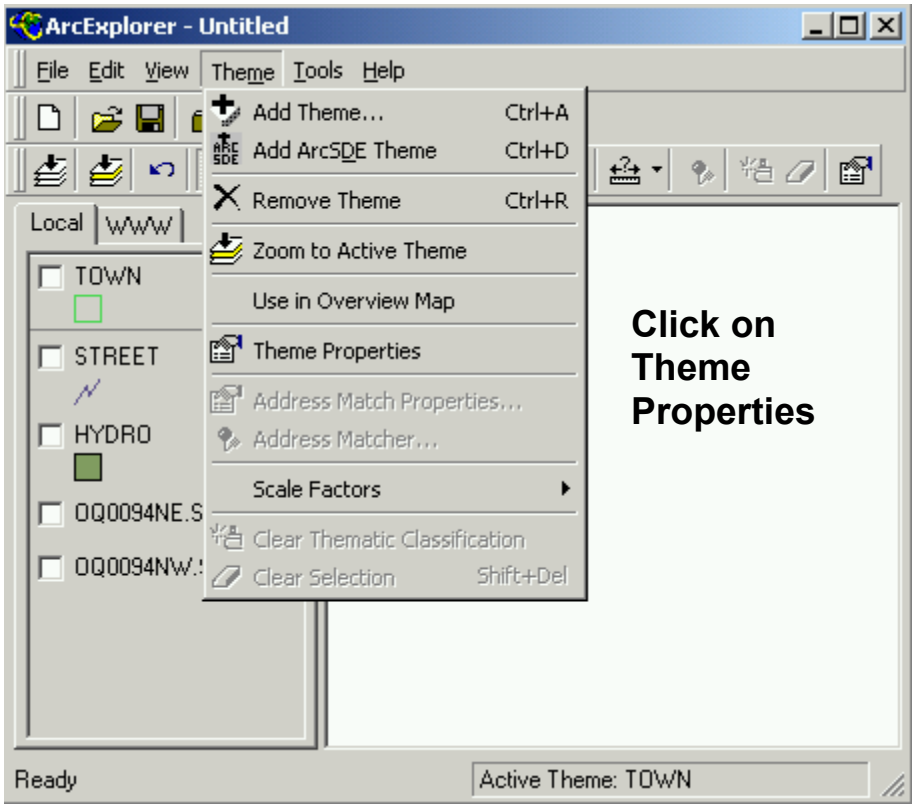
Step 2. Viewing Data (continued)

Theme Properties

If the theme on the top has a **solid** fill type, then no other theme will be visible underneath unless the fill type for the top theme is changed to **transparent**. To change to a transparent fill type, it is necessary to modify the theme's properties. Before you can do this, however, you must make the theme **active**. This tells ArcExplorer which theme to modify. To do this, click directly on the theme name. The theme name will be outlined. The theme is now **active** and ready to be modified.

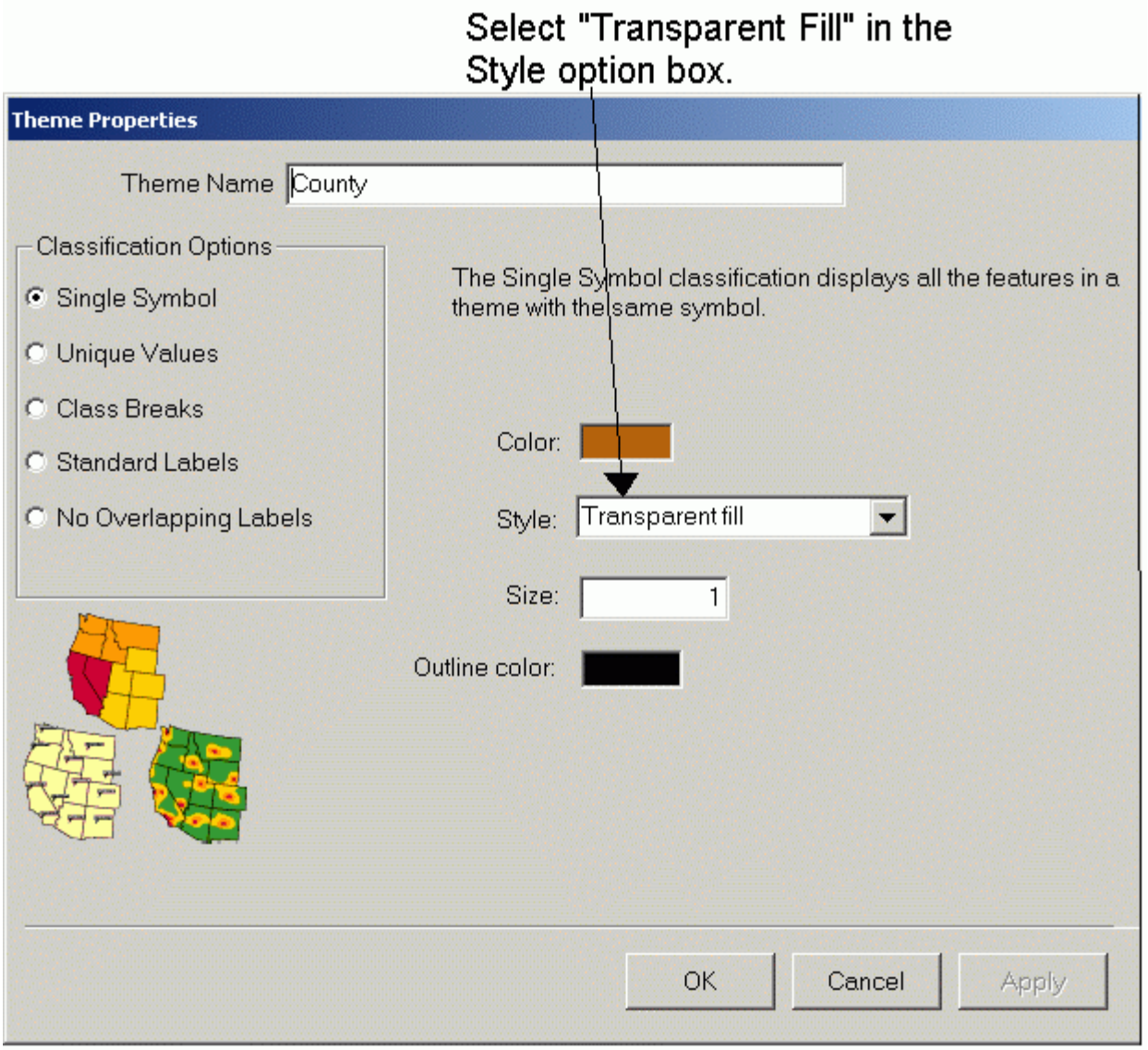
Click on the **Theme Properties** tool  .

You are now ready to change some of your theme properties.



Step 2. Viewing Data (continued)

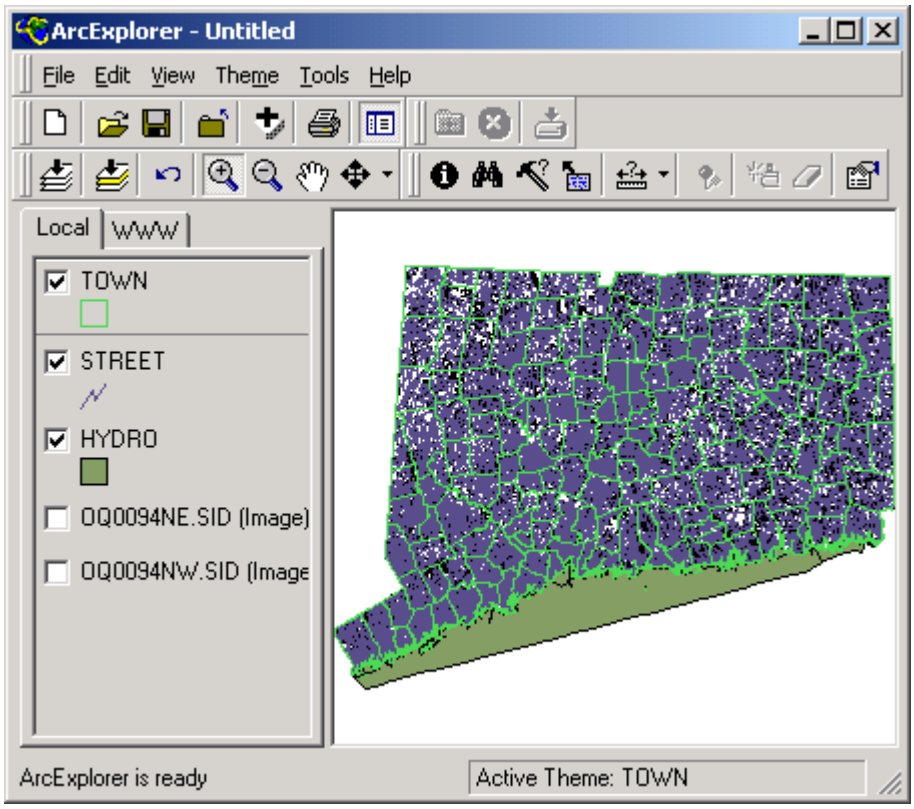
To change your theme to transparent fill, click on the arrow beside the **Style** option box and select **Transparent Fill**. Then click **Apply** and **Okay**. You'll now see that your Town theme is transparent and that all of the other themes can be see "through" it.



Click OK and proceed to the next step.

Step 2. Viewing Data (continued)

The view should now be displayed like the following, with all of your themes visible in the view.



Step 2. Viewing Data (continued)

Setting Scale Thresholds

There are some themes that are very large in file size and, as a result, may take a substantial amount of time to ”draw” on your screen. Because these files are so large, it is a good idea to set scale thresholds so that certain themes cannot be seen at smaller scales. In addition, if you are zoomed out to a view of the entire state and make the Soils theme visible, for example, ArcExplorer will likely close since this theme is just too large a file. Another argument for setting scale thresholds is that viewing certain themes at a small scale provides a meaningless view and does not contribute to interpreting your map. Viewing all of the soils in the entire state at once does not give the viewer an understanding of how the Soils theme is normally used.

To set scale thresholds, you must first zoom to a scale that you would like to set as a maximum threshold. We will use the Roads theme as an example.

Make the Street theme visible by clicking on the checkbox. You will see all of the roads drawn on your map. Now zoom in until your scale reads about 1:100,000. The scale bar is just below and center of your view.

Click on Theme from the menu bar and then mouse down to Scale Factors. Choose “Set Maximum Scale Factor”. This sets the maximum scale at which your theme is displayed.

At this point it is a good idea to set all of the themes for which you would like this particular threshold. This way, they will all be set at the same threshold so that there is no confusion about when certain themes are displayed and others are not.

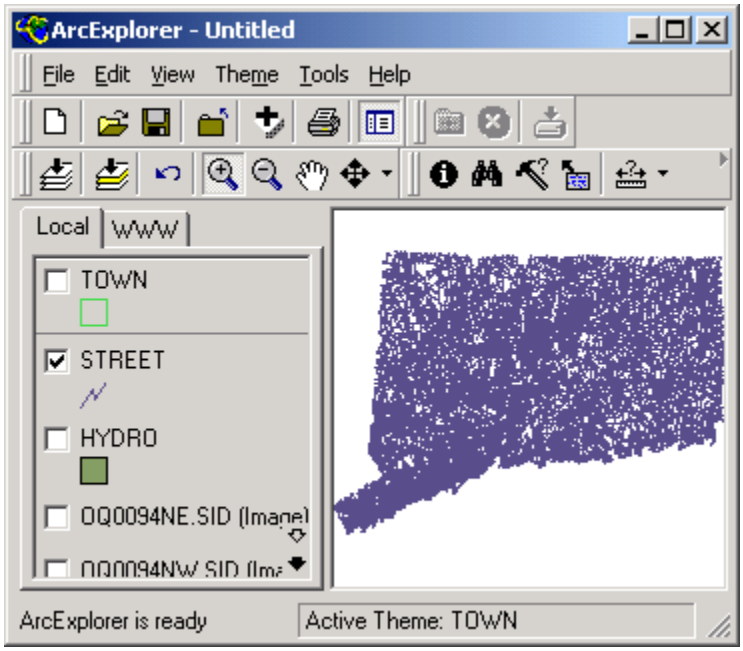
Next, zoom in as far as you would like this theme displayed. Once again, click on Theme from the menu bar and then mouse down to Scale Factors. Choose “Set Minimum Scale Factor”. This sets the minimum area at which your theme is displayed.

To test your thresholds, zoom out beyond your maximum threshold and you should not see your theme displayed, although it is checked “on” in the Table of Contents. Conversely, zoom in beyond your minimum threshold and your theme should not be displayed at this scale also.

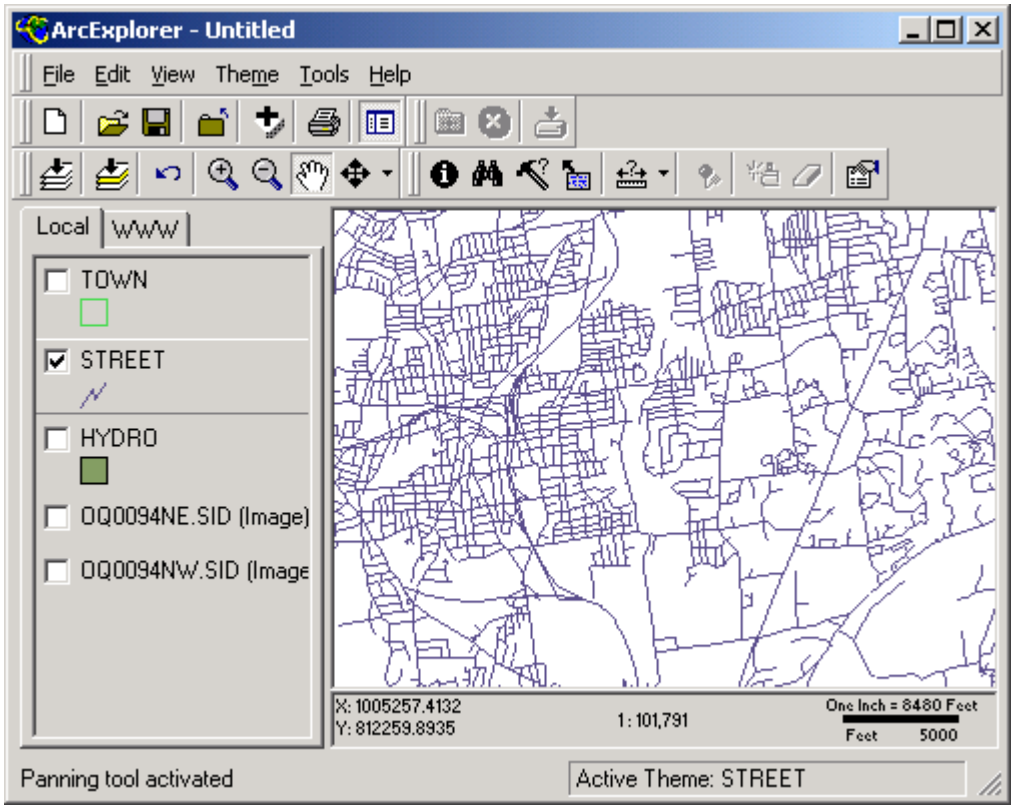
Setting threshold will improve ArcExplorer’s performance and avoid delays in drawing your maps.

Step 2. Viewing Data (continued)

Setting Scale Thresholds (continued)



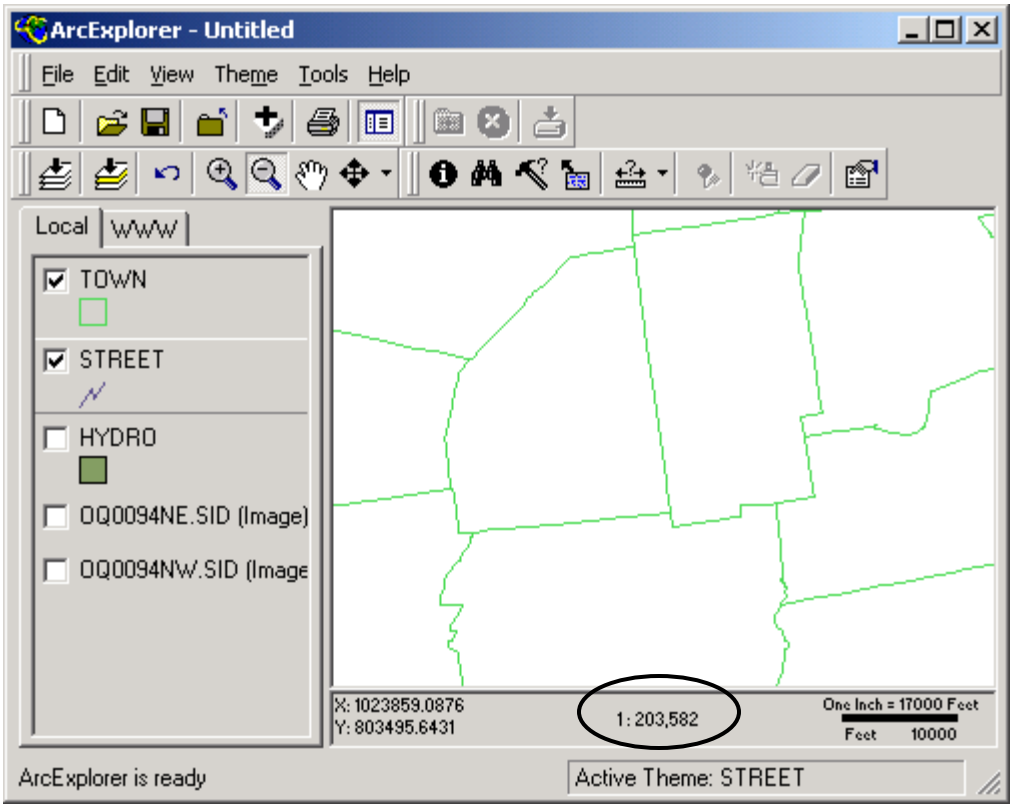
View of Street theme with no maximum scale threshold set. This causes poor performance and delays in viewing your map.



View of Street theme at about a 1:100,000 scale. Maximum threshold was set at this scale.

Step 2. Viewing Data (continued)

Setting Scale Thresholds (continued)



Although the Street theme is checked “on”, streets are not visible since the scale is above the maximum threshold of 1:100,000.

To remove scale factors, click on Theme, Scale Factors and “Remove Scale Factors”. This removes all thresholds and will allow your theme to draw at any scale.

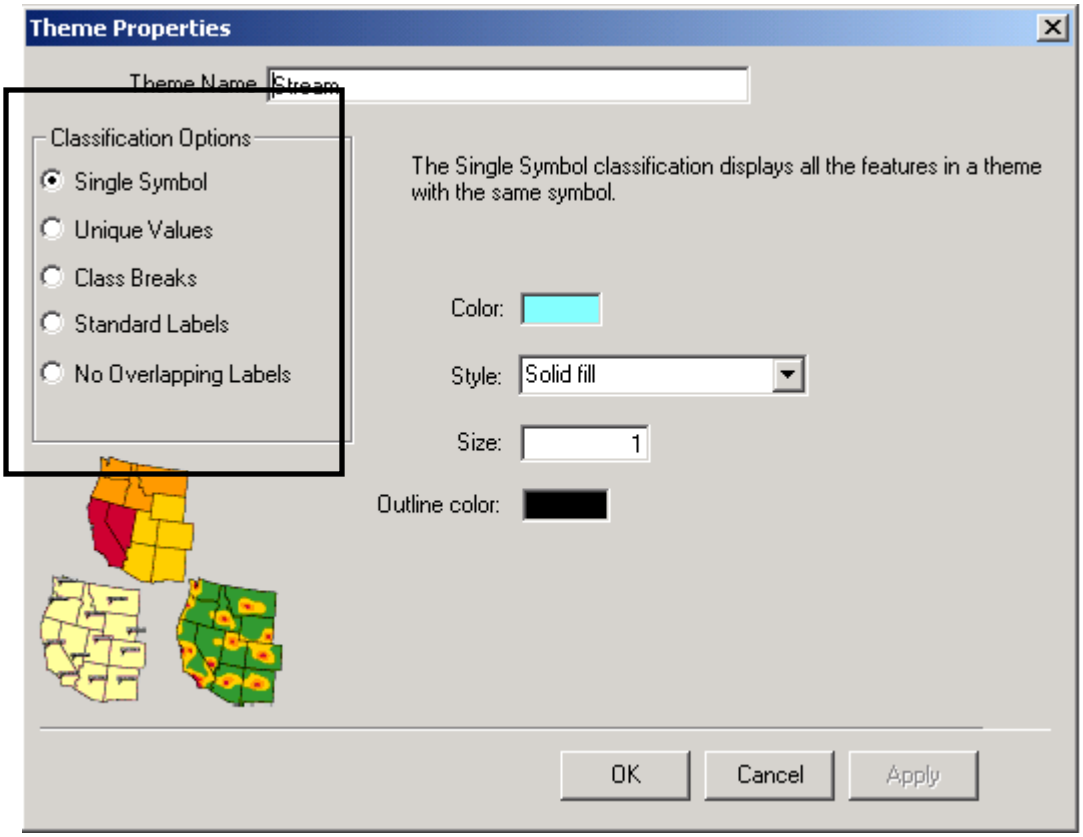
Step 2. Viewing Data (continued)

Other Theme Properties

There are a number of other tools with which to change the appearance of your themes:

- Unique Values
- Class Breaks
- Standard Labels
- No Overlapping Labels

Each one of these options can be used only exclusively. They cannot be combined with any other option. For example, you cannot combine standard labels and unique values, or class breaks and standard labels.



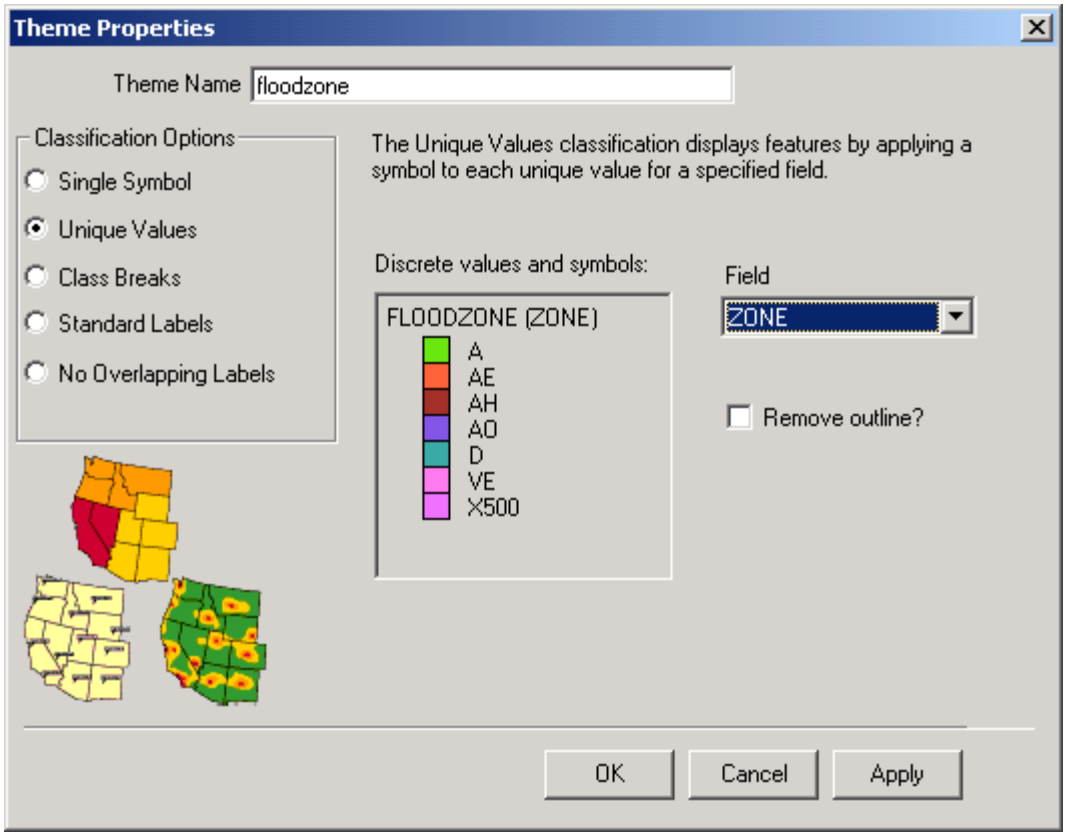
Step 2. Viewing Data (continued)

Unique Values

This choice allows you to categorize your theme attributes with separate color schemes or patterns.

To demonstrate this option, add the FEMA Flood Zones theme to your map. It is located at C:\Envirodata\Data\FEMAFloodZone.shp.

After making the Flood Zones theme active, click on Theme Properties. Then choose the Unique Values option.

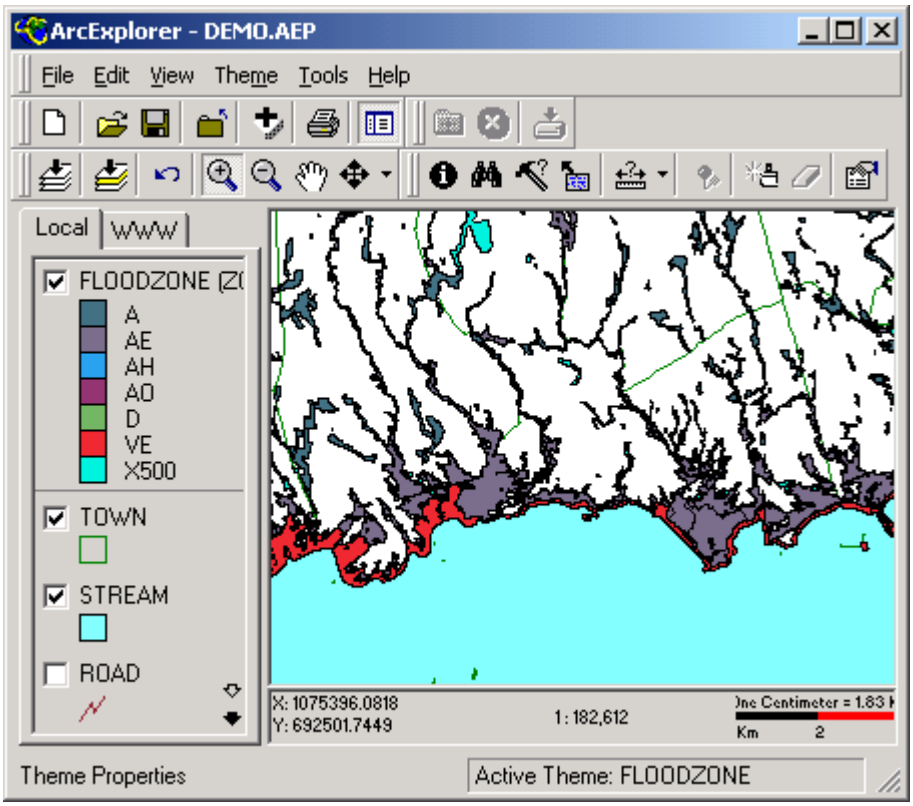


In the Field text box, click on the arrow and choose the “Zone” attribute. When you do, you will see that ArcExplorer takes each of the values in the Zone field and applies a color scheme to them. You can change the colors by clicking on each one individually.

When done, click OK. Now turn on the Flood Zone Theme.

Step 2. Viewing Data (continued)

Your map might look something like this:



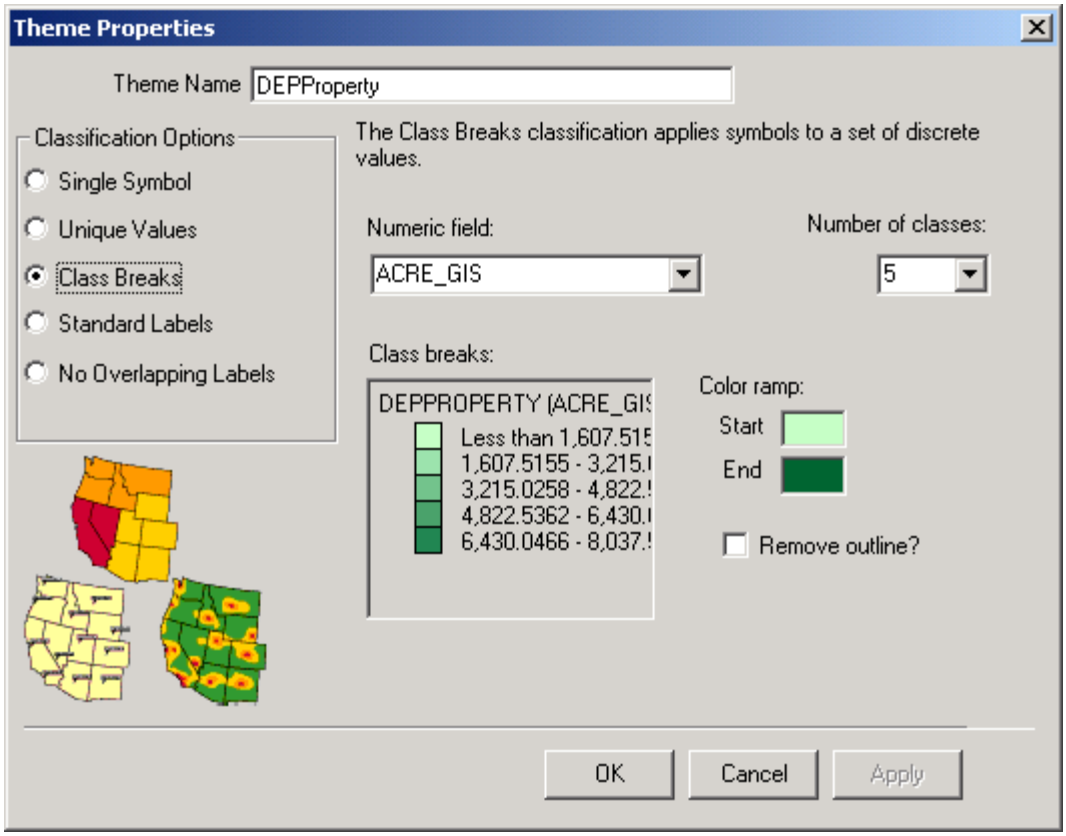
The legend shows the breakdown of flood zones. For example, the A zone is a dark teal color and the VE zone is red.

You can categorize your themes with any meaningful breakdown of features, as long as the individual values are not too numerous.

Step 2. Viewing Data (continued)

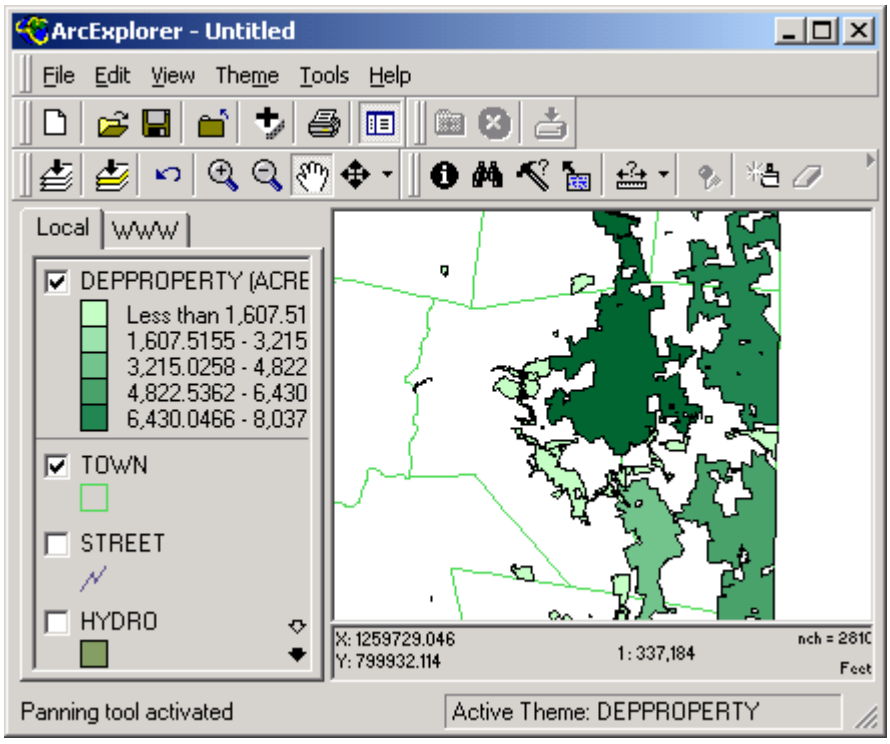
Class Breaks

Another option in the Theme Properties menu is “Class Breaks”. Add the following theme to your view: C:\EnviroData\Data\DEPProperty.shp. This theme displays all of the DEP owned property throughout the state. There are numerous parcels of land with a range of parcel sizes. If we would like to categorize these parcels according to their size, we would click on “Class Breaks”. In the Numeric Field text box, choose “Acre_GIS”. ArcExplorer will then automatically categorize the parcels according to size and assign a ramped color scheme to this feature. The result in the example below is that smaller parcels have a lighter color than larger parcels.



Step 2. Viewing Data (continued)

The resulting view of Pachaug State Forest in eastern Connecticut would look like this:

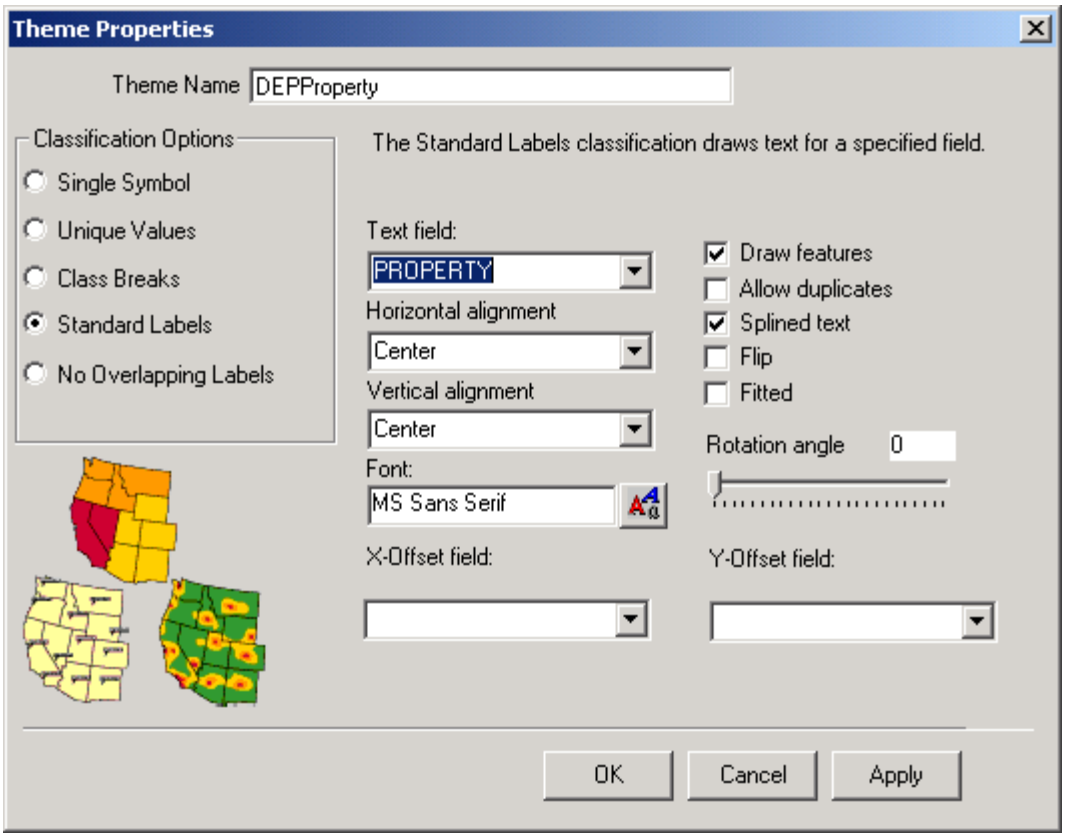


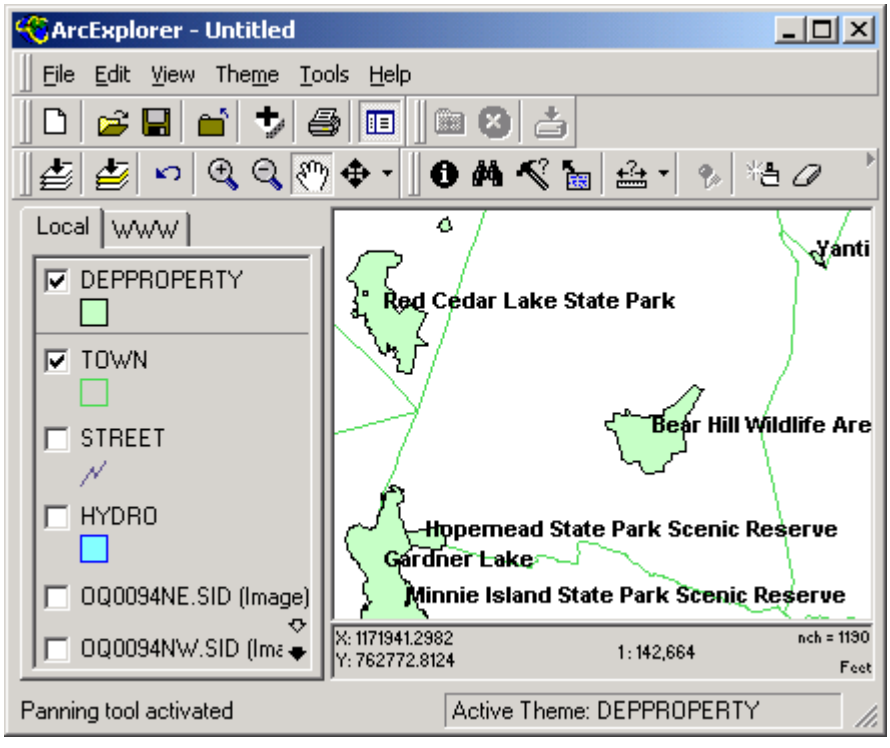
Remember that the “Class Breaks” option can only be used on a numeric field attribute since this is the only appropriate application.

Step 2. Viewing Data (continued)

Standard Labels

The Standard Labels choice on the Theme Properties menu allows you to label features in a theme. Open the DEPProperty theme, make it active, and then Click on Theme Properties. Next choose Standard Labels and then choose PROPERTY from the Text field: box.



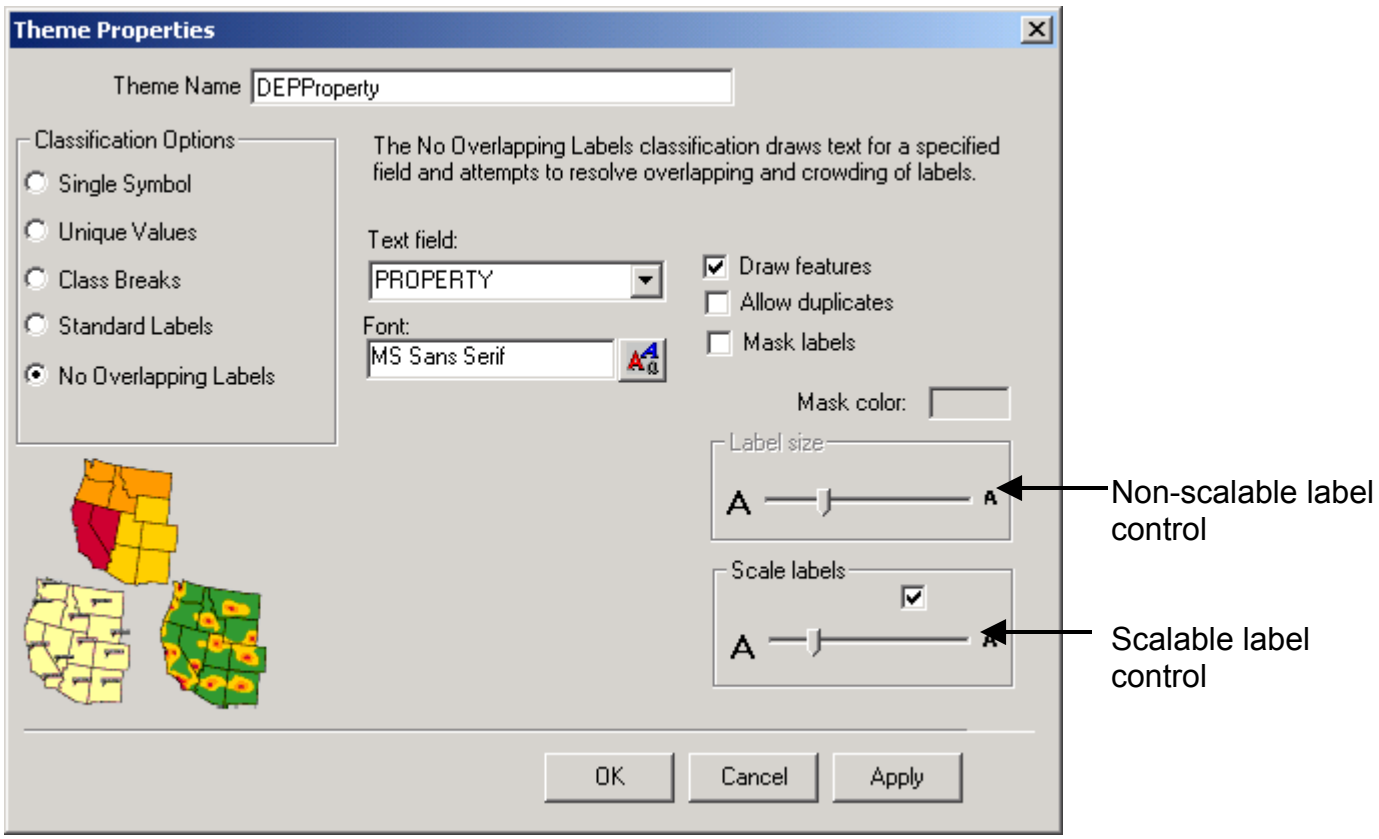


After clicking OK you will see that a label for each DEP property is placed at the bottom left of each. The font type and size can also be changed.

Step 2. Viewing Data (continued)

No Overlapping Labels

This option for labeling attempts to resolve overlapping issues. Within this option there is also the choice of applying scalable vs. non-scalable labels. Click on No Overlapping Labels and choose "Property" in the text box. In the bottom right corner of this menu are two options. The first allows you to choose a font size that will be constant, i.e., it remains the same size regardless of the map's scale. The second choice allows a scalable font size. In other words, as the scale of the map changes, so does the size of the labels.

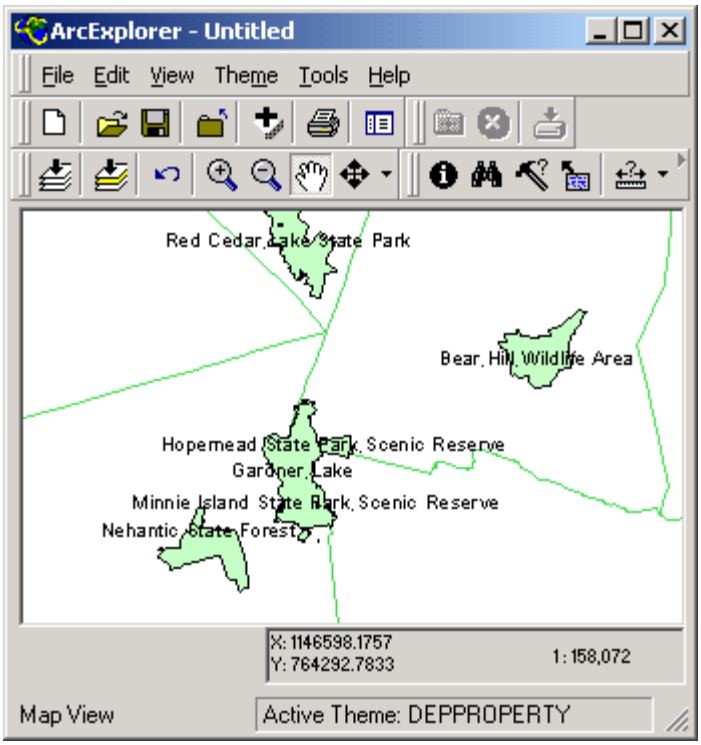


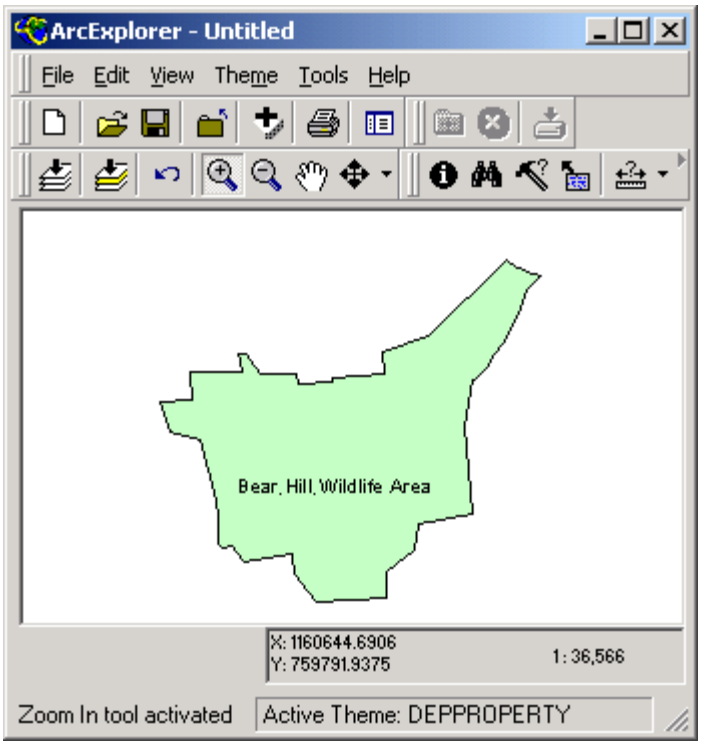
Step 2. Viewing Data (continued)

No Overlapping Labels

Non-Scalable Labels

In the example below, a non-scalable label size was set for Bear Hill Wildlife Area in the view on the left. This label size was set at the scale as you see it (1:158,072). After zooming in to a scale of 1:36,566 (view on right), you can see that the label remained the same size. Thus, the labels are non-scalable, i.e., they are not influenced by the map's changing scale.



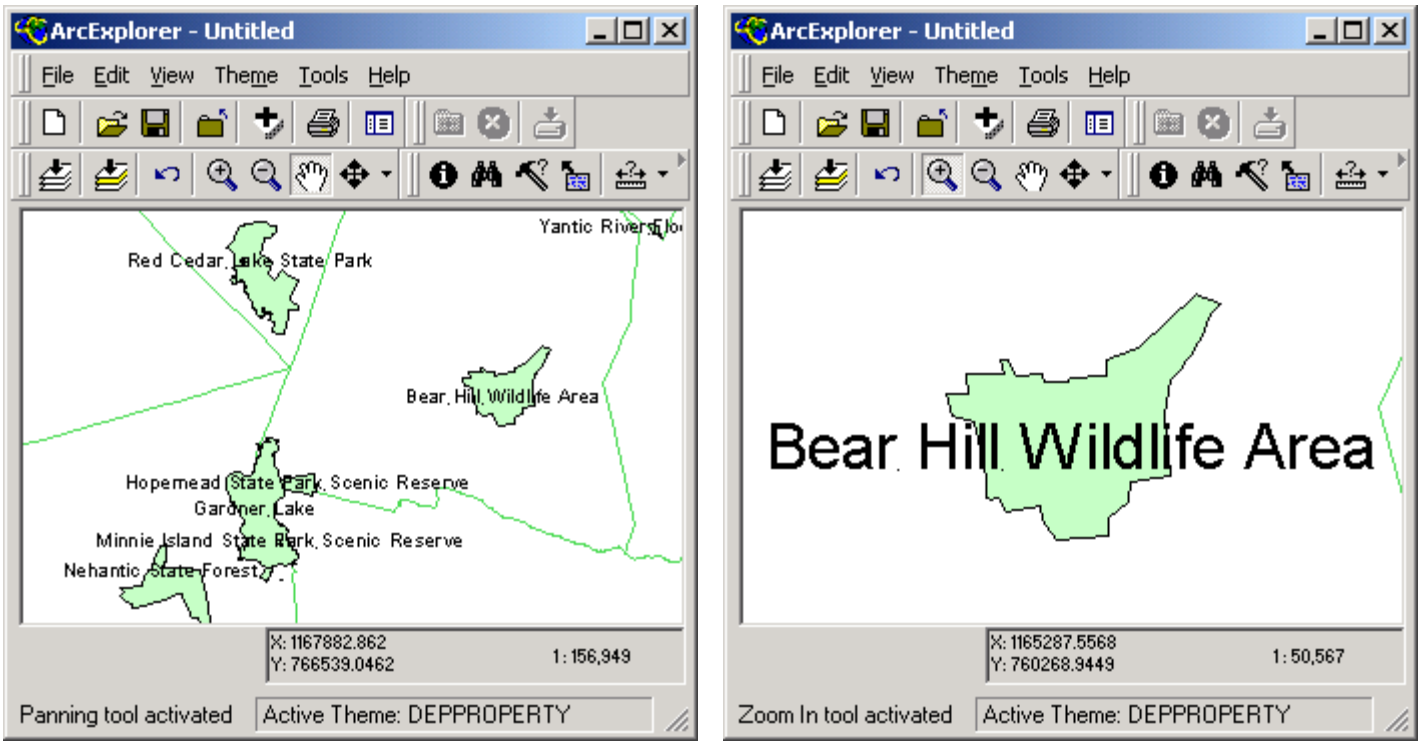


Step 2. Viewing Data (continued)

No Overlapping Labels (continued)

Scalable Labels

This next example shows scalable labels. The label size was set when the view on the left was displayed at a scale of 1:156,949. Zooming in so that the map's scale becomes larger (1:50,567), we see that the labels also become larger. This is an example of scalable labels.



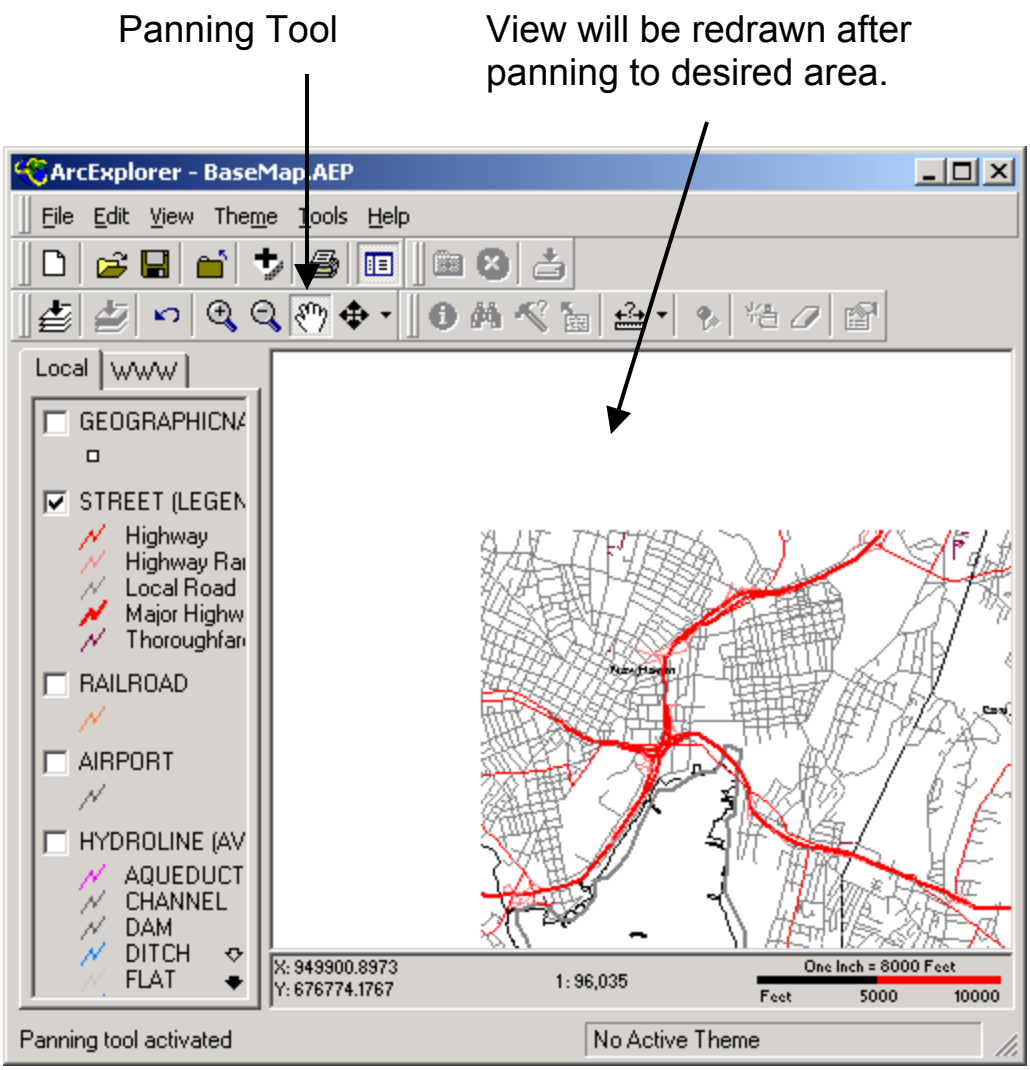
Whether or not you use scalable labels or non-scalable labels is strictly a matter of choice. Either application may be suitable, depending on your needs.

Step 3. Panning and Zooming

Panning

Moving the view around the state is called panning. Click on the **Panning Tool**. 

Then click on the view while holding the left mouse button down and drag the mouse. You will see the view move with the mouse. Release the mouse button and the view is redrawn.



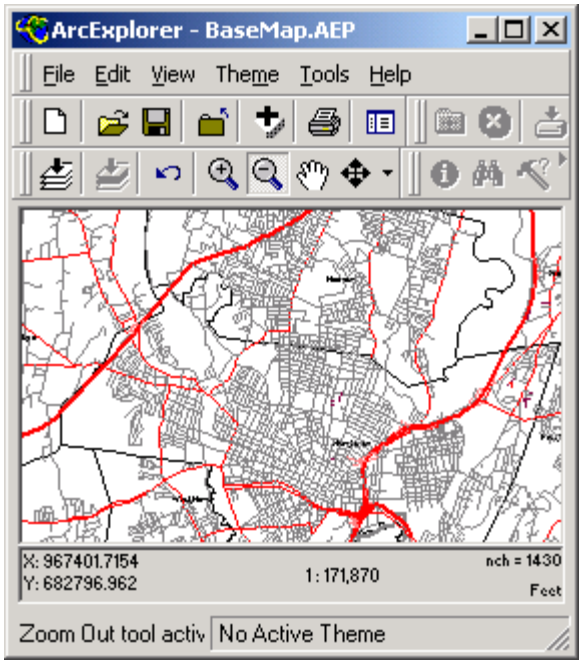
Another way to pan is to use the **Direction** tool.  This tool allows you to pan in a north, south, east, or west direction. Click on the small arrow on the right side of this tool and then click on the direction in which you would like to travel.

Step 3. Panning and Zooming (continued)

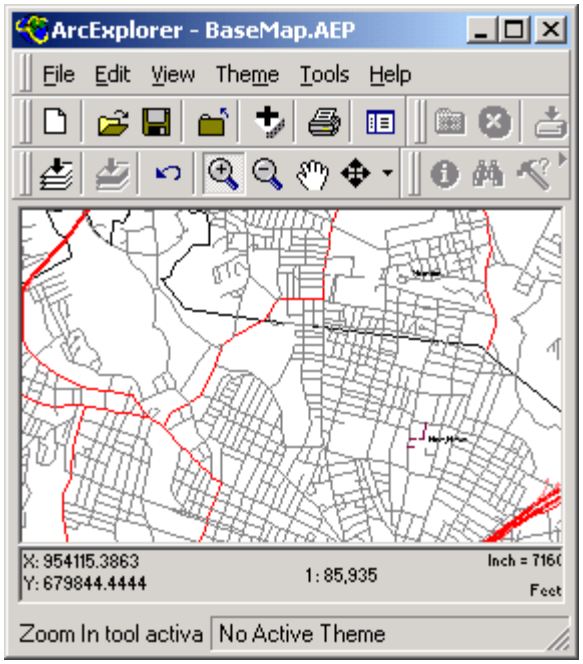
Zooming

There are several ways to zoom to specific areas of the state. The easiest way to zoom is click on the **Zoom In** tool and then click in the view. This tool allows you to incrementally zoom in one click at a time. It may take several clicks on the map before you are zoomed in to your satisfaction.

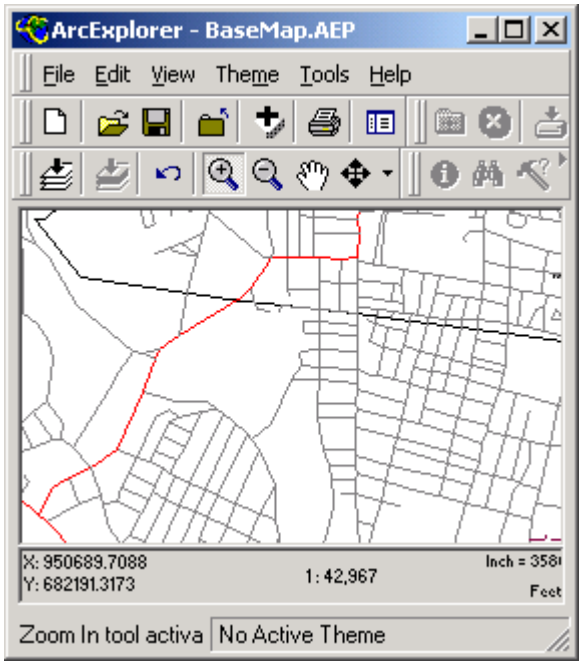
Starting Position



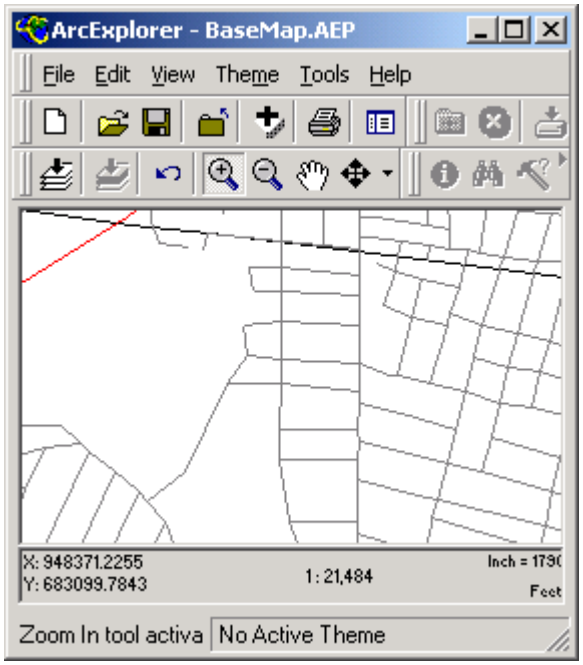
One Click on View Area



Two Clicks on View Area

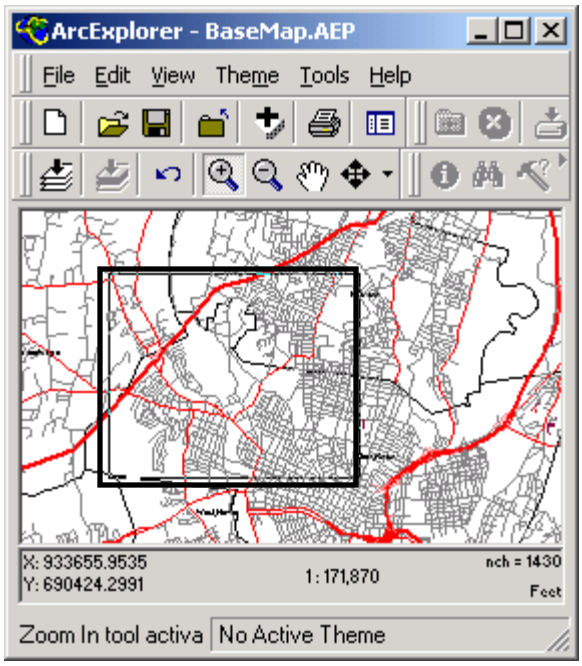


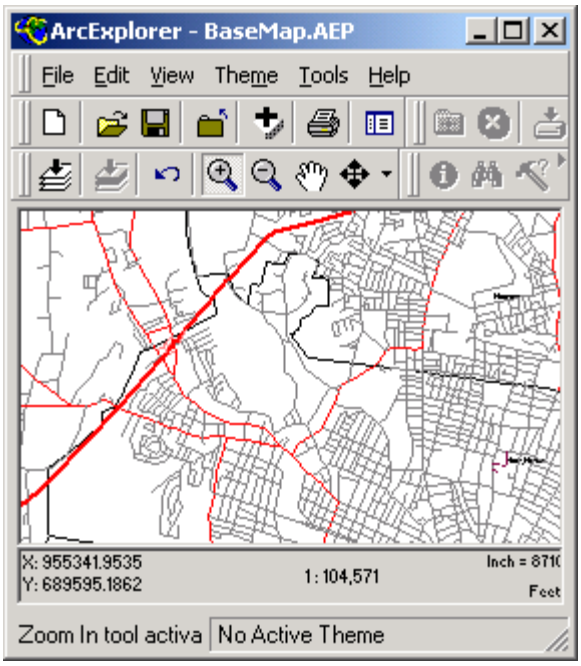
Three Clicks on View Area



Step 3. Panning and Zooming (continued)

The **Zoom In** tool can also be used to quickly zoom to a rectangular area that is drawn on the view. First, click the **Zoom In** tool to make it active. Then hold the left mouse button down and drag the mouse to draw a rectangle around the area you would like to zoom. Then release the mouse button and ArcExplorer zooms to the area.





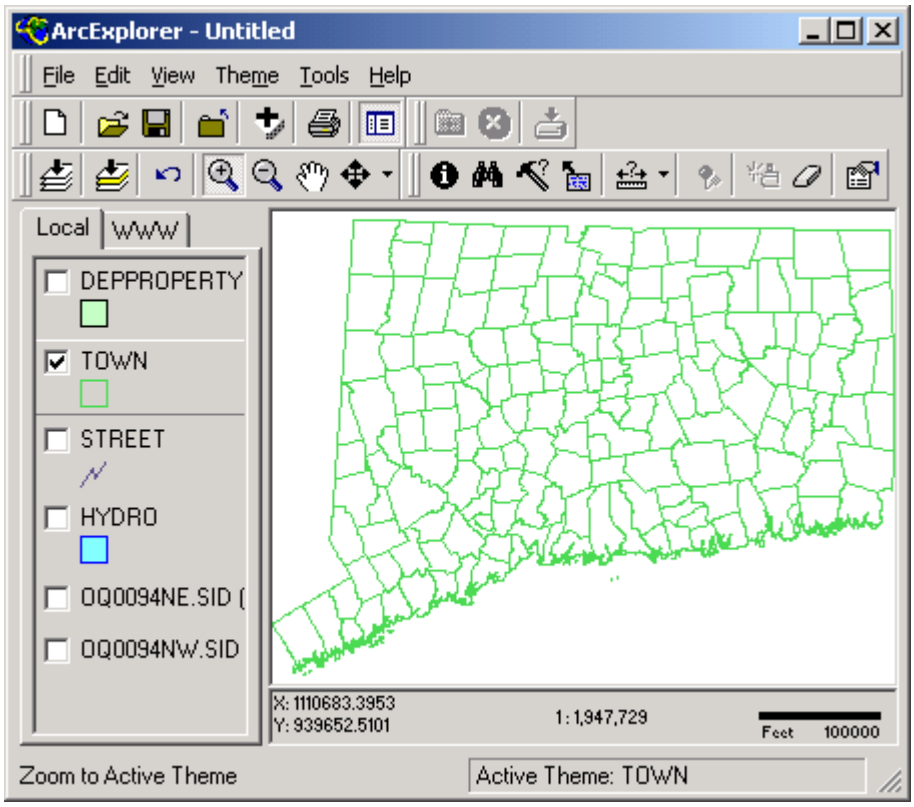
To zoom out, use the **Zoom Out** tool the same way. 

Step 3. Panning and Zooming (continued)

To zoom out to the complete or full extent of all of your themes, use the **Zoom to Full Extent** tool.

This will bring your view area to the entire state. Be careful with this tool. If you have a large theme set at visible, i.e., checked “on”, the size of the theme may be too large to draw and ArcExplorer may close unexpectedly. For example, NEVER press the Zoom to Full Extent tool when you have the “Soils” theme set at visible!

To zoom out the full extent of a single active theme, use the **Zoom to Active Theme** tool.

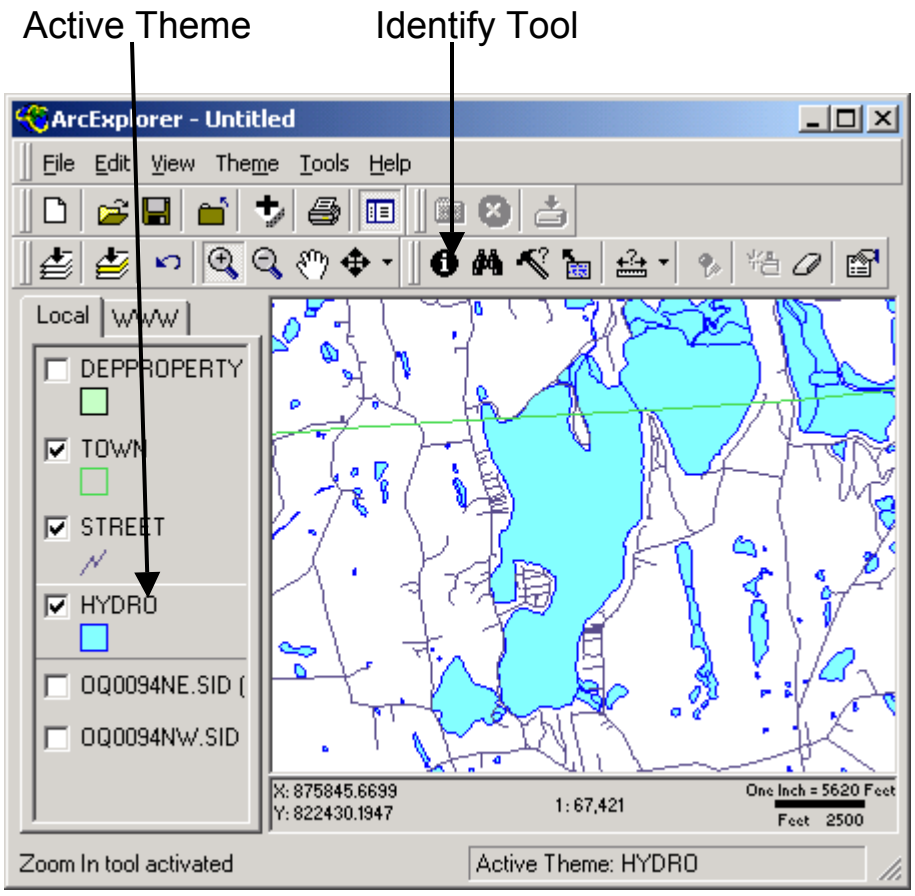


Step 4. Identifying Features

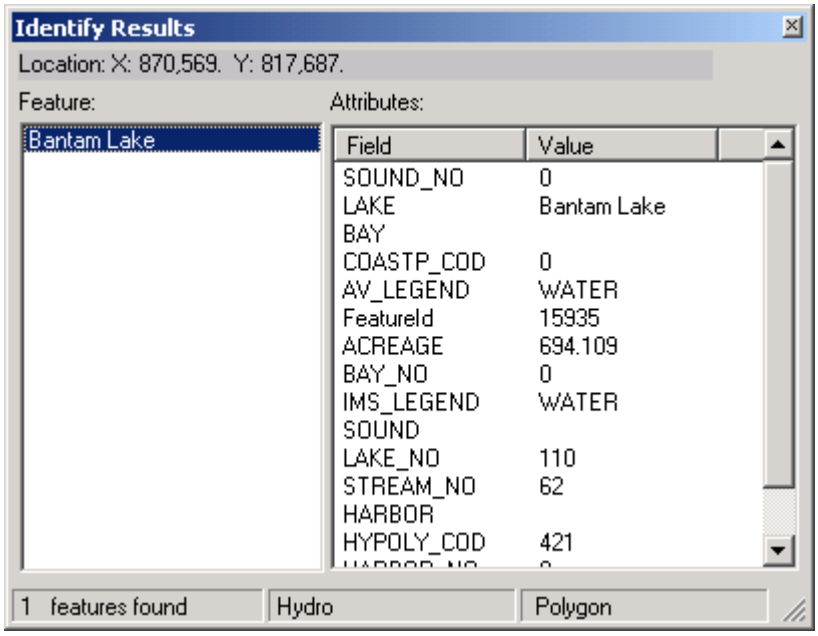
Viewing your data is helpful, but there are times when you need to know details about certain features displayed in the theme. For example, perhaps you want to retrieve specific information for an individual lake, such as its name and how large it is. This task is performed using the **Identify Tool**.

First, make the theme you want to identify **active** by clicking on its name in the table of contents. You will see a light rectangular box drawn around a theme when it becomes **active**.

Next, click on the **Identify Tool**.



Step 4. Identifying Features (continued)



Third, click directly on a lake in the view. An information box similar to the one shown below indicates the name and size of the waterbody.

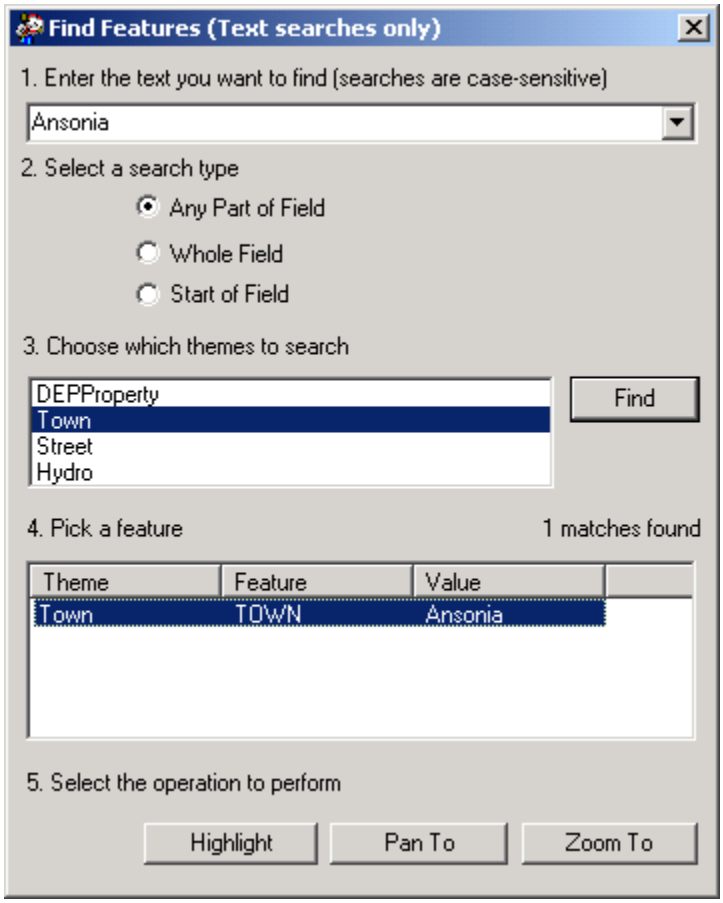
In this way you can retrieve details about any feature on your map. The exception, however, is that imagery files do not have accompanying database information. They are images only and visual features cannot be identified. For example, if you see a building on the aerial photography maps and would like to know details about it, there is no accompanying database to identify this feature for you.

Remember that you must make a theme “active” before you can Identify its features.

Step 5. Finding Features

ArcExplorer makes it easy to find particular features with the “Find Feature” tool. 

Click on the Find Feature tool. In the text box, type in "Ansonia" to search for the Town of Ansonia. Under Item 3 choose the Town theme. Then click on “Find”. You will see that ArcExplorer has returned one entry named Ansonia. Click on Ansonia to select it and you will see at the bottom of the dialog box that you may now highlight your feature, pan to your feature, or zoom to your feature.



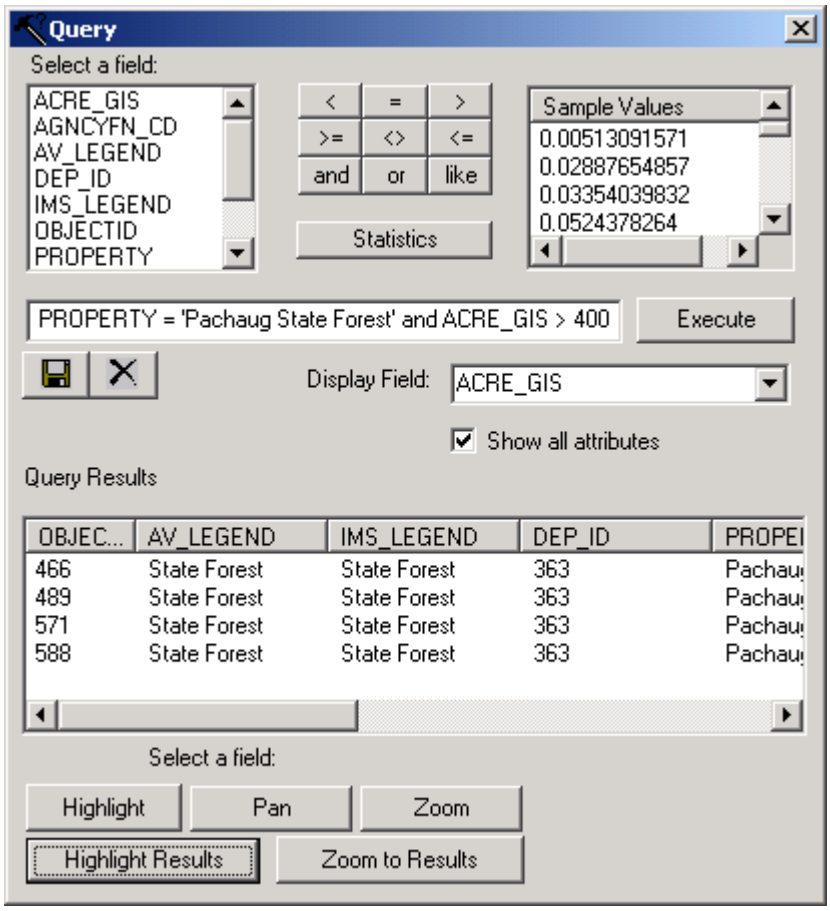
This tool can be used to find any number of features and is very useful. Another useful tool similar to Find Feature is the Query tool. The next section discusses this tool.

Step 6. Querying Themes

The Query tool  is useful for extracting certain features from one theme. To choose these features you need to compose a query request. ArcExplorer makes this easy by giving you a number of choices in the dialog box.

Make the DEPProperty theme active by clicking on it. Next, click on the Query tool. We want to find all the parcels in Pachaug State Forest that are over 400 acres in size. Follow these steps:

Click on PROPERTY under “Select a field”.
Click on the “equals” sign.
Click on “Pachaug State Forest” in the Sample Values box on the right.
Click on the “and” button in the top center of the screen.
Click on ACRE_GIS.
Place your cursor in the text box and type in “400”.
Click the “Execute” button.

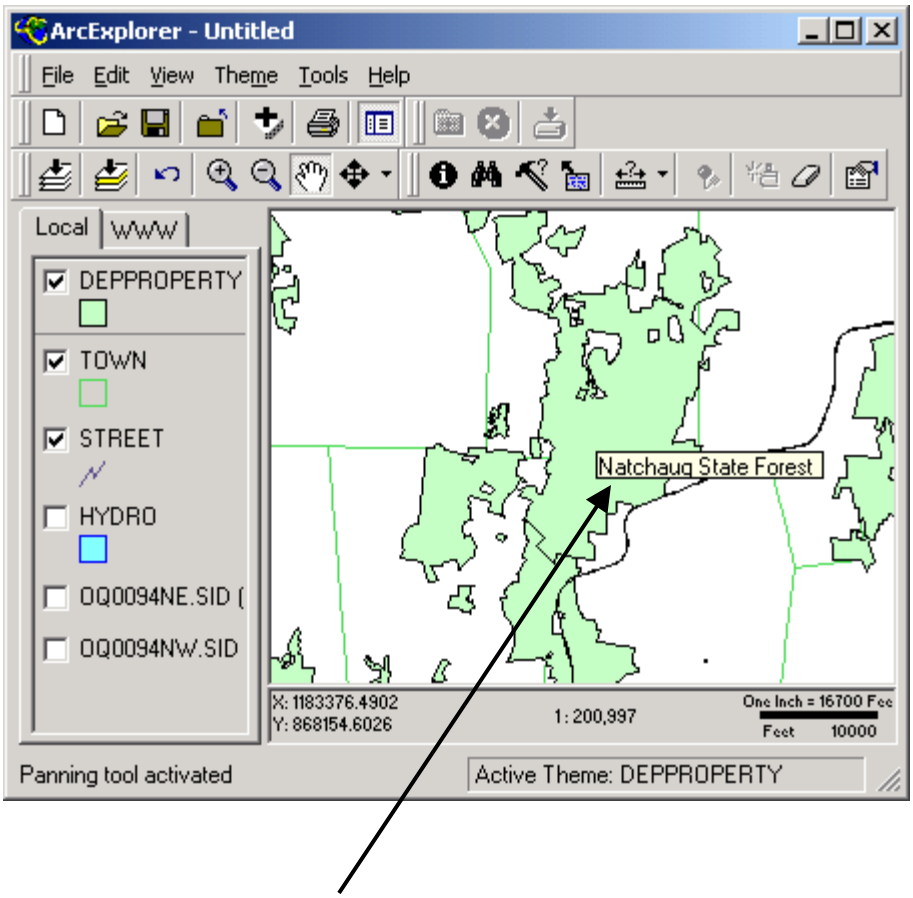


You will see your results displayed in the Query Results area, as shown above. You now have the choice of highlighting, panning, or zooming to individual results or to all of the results.

Step 7. Using Map Tips

The Map Tips tool  is a handy way of retrieving feature information quickly. When you mouse over a feature, the attributes of a feature are displayed on your view.

Click on the DEPProperty theme to make it active. Click on the Map Tips tool. In the dialog box, choose the attribute called “Property”. Click OK.



Now, every time you mouse over a DEP Property, that DEP Property’s name will be displayed on your map.

To clear Map Tips, click on the tool and click the Clear button.

CONGRATULATIONS!

You have completed the Basic Tutorial for ArcExplorer.

To learn more, open Using ArcExplorer (pdf), which is published by ESRI and contains more detailed information.

If you have additional questions, please contact Jacqueline Mickiewicz of the Dept. of Environmental Protection at 860-424-3085.

Appendix I

ArcExplorer Tools and Buttons

Button	Name	Description
	New ArcExplorer	Starts a new session of ArcExplorer.
	Open Project	Opens an ArcExplorer project (file with an .aep extension). (Local mode only.)
	Save Project	Saves an ArcExplorer project. (Local mode only.)
	Close Project	Removes all themes and returns an empty view. Closes the Web map site in WWW mode.
	Add Theme(s)	Adds one or more theme(s) to the view. Adds a Web map site in WWW mode.
	Print	Prints the map view and legend to a preformatted map layout. (Local mode only.)
	Toggle ArcExplorer Legend	Toggles the legend on and off.
	AEWeb Favorites	Opens the AEWeb Favorites dialog.
	Cancel WWW Request	Cancels a request to a map server for a download of WWW data.
	Retrieve Data from WWW	Downloads data displayed in the map view from WWW.
	Zoom to Full Extent	Zooms to the extent of all themes.
	Zoom to Active Theme	Zooms to the extent of the active theme. (Local mode only.)
	Zoom to Previous Extent	Zooms to the last previous extent. (Local mode only.)
	Zoom In	Zooms in on the position you click or the box you drag on the map view.
	Zoom Out	Zooms out from the position you click or the box you drag on the map view.

ArcExplorer Tools and Buttons (continued)

 Pan	Pans the map as you drag the mouse across the map view.
 Direction	Choose panning directional
 Pan North	Pans the map view to the north.
 Pan South	Pans the map view to the south.
 Pan East	Pans the map view to the east.
 Pan West	Pans the map view to the west.
 Identify	Lists attributes of features you identify by clicking them in the map view.
 Find	Finds a map feature(s) based on a text string you type in. (Local mode only.)
 Query Builder	Queries the active theme based on a query expression you construct.
 MapTips	Displays attribute information for features on the map view. (Local mode only.)
 Measure	Measures distances on the map view. You must first choose measurement units from the detachable menu.
 Address Match	Locates a street address or intersection on the map view.
 Clear Thematic Classification	Removes thematic classification from the active theme. (Local mode only.)
 Clear Selection	Clears the selected/highlighted features from the map view. (Local mode only.)
 Theme Properties	Sets the display characteristics of the active theme. (Local mode only.)

Appendix II

Glossary of Terms

ArcExplorer	The software program that allows us to view geospatial data in this course.
Attribute	Another word for attribute might be a "field" in a database. For example, "Size of Lake" might be an **attribute** within the DEP Lake theme.
Data	Any collection of information.
Data Layer (synonymous with "Theme")	A set of geographic features of the same type, along with their attributes. For example, all municipally owned land in Connecticut is a theme. Themes are like layers, which are based on shapefiles or coverages of GIS data.
Digitize	A method of entering spatial data into a file so as to retrieve it in map format at a later date.
DOQ	Digital Orthographic Quadrangle. These are the aerial photography maps.
DRG	Digital Raster Graphic. These are the USGS topographic maps.
ESRI	Environmental Systems Research Institute is the software company that makes ArcView, ArcInfo, ArcExplorer, ArcIMS and Spatial Database Engine (SDE).
Geocoding	The process of finding the map coordinates (x,y coordinates) of a location from an address.
GIS	Geographic Information System. An organized collection of computer hardware, software, geographic data, and personnel designed to efficiently capture, store, update, manipulate, analyze, and display all forms of geographically referenced information.
Identify	A function that allows you to identify all the features associated with a particular point on a map.
Line	A set of ordered x,y coordinates that is displayed as a line on a map.
Point	A digitized point on a map. Consists of a single x,y coordinate that represents a geographic feature, for example, the location of a well, a dam, or a boat launch site.
Polygon	A feature used to represent areas. May include irregular shapes or squares, rectangles and circles. An example would be a State Park area such as Talcott Mountain State Park.
Raster	A cellular data structure (grid) composed of rows and columns for storing images.
Resolution	Resolution is the accuracy at which a given map scale can depict the location and shape of geographic features. The larger the map scale, the higher the possible resolution, e.g., 1:500 vs. 1:24,000. As map scale decreases, resolution diminishes and feature boundaries must be smoothed, simplified, or not shown at all. For example, small areas may have to be represented as points.

Appendix II (continued)

Glossary of Terms (cont.)

Scale	The reduction needed to display a representation of the Earth's surface on a map. For example, the scale most frequently used at DEP is 1:24000, which equates to 1 in. = 2000 feet. It is a ratio between units of measurement on a map and the earth's surface. For example, 1:24000 means one inch on the map is equivalent to 24000 inches (or 2000 feet) on the ground. Large and small scales are illustrated by the following example: Large Scale = 1:24000 (large ratio) Small Scale = 1:100000 (smaller ratio or fraction)
Shapefile	In ArcExplorer, this is the file format for storing the location, shape and attribute information of geographic features.
Symbology	A graphic pattern used to represent a feature. For example, a red dashed line or a blue dotted line might represent line symbology. A round green filled circle, or a red star might represent point symbology. A purple-hatched area or a solid yellow filled area might represent polygon symbology.
Table of Contents	In ArcExplorer, this is the area on the left in which all of your themes are listed.
Theme (synonymous with "Data Layer".	A set of geographic features of the same type, along with their attributes. For example, all municipally owned land in Connecticut is a theme. Themes are like layers, which are based on shapefiles or coverages of GIS data.
USGS Topo Maps	These are the topographic maps that DEP uses most frequently and which were created by the United States Geological Survey.
Vector	A coordinate-based representation commonly used to represent geographic features. A point is stored as a single x,y coordinate, a line as a pair of x,y coordinates, and a polygon as a set of x,y coordinates, each of which marks a vertex of the polygon.
View	That area on your screen that depicts data as a map.
XY Coordinate	A set of numbers that designate a point on a map. Coordinates represent locations on the Earth's surface relative to other locations. In all of DEP's applications, the North American Datum of 1983 for Connecticut is the x,y coordinate system used. The x,y coordinates are displayed in ArcExplorer in the bottom right corner, beneath the map view.